

ABSTRACT

[1044] A multi-mode device, capable of channel equalization and packet collision detection, includes a first switch, which is capable of receiving a transmit signal and a receive signal and outputting a filter input, which is multiplied by a first filter tap to generate a first product. The device also includes a delay unit for receiving the filter input and generating a delayed filter input, wherein the delayed filter input is multiplied by a second filter tap to generate a second product; an adder for adding the first product with the second product and generating a filter output; a decision block, which receives the filter output and generates a decision output; and a second switch capable of receiving the decision output, a training sequence and the receive signal and outputting a second switch output. The device generates an error signal using the filter output and the second switch output.